Lead Initiative Summary Report

NL INDUSTRIES/TARACORP LEAD SMELTER SITE

GRANITE CITY, MADISON COUNTY, ILLINOIS

CERCLIS NO. ILD096731468

SEPTEMBER 30, 1992

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Lead Initiative Summary Report: A Note of Explanation

The purpose of the Lead Initiative Summary Report is to discuss the current status of a hazardous waste site and determine if there is a population potentially at risk from exposure to lead and other hazardous substances from the site. The Lead Initiative Summary Report is generally reserved to update activities for those sites for which public health assessments have been previously prepared and where lead contamination has been documented. It is not intended to be an addendum to a public health assessment. The goal is the prevention of lead toxicity in the population potentially exposed to lead released from NPL sites by initiating appropriate follow-up activities. The Lead Initiative Summary Report, in conjunction with the ATSDR Site Ranking Scheme, will be used to determine relative priorities for future ATSDR public health actions.

LEAD INITIATIVE SUMMARY REPORT

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Prepared by

Remedial Programs Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry

SUMMARY OF BACKGROUND AND HISTORY

The NL Industries/Taracorp site is at the corner of 16th Street and Cleveland Boulevard in Granite City, Madison County, Illinois. The site encompassed 30 acres of land when owned by the Hoyt Metal Company, but at present exists on less than 18. The site borders properties owned by Trust 454, Terminal Railroad Associates, Inc., Illinois Central Gulf Railroad, Chicago and Northwestern Railroad, and Tri Cities Trucking, Inc. (Figure 1). St. Louis Lead Recyclers (SLLR) is a tenant of Trust 454. The site is not within the 100-year flood plain of any river, because of a levee system along the Mississippi River.

In 1895, operations began at the site under the ownership of Markle Leads Works. Markle manufactured lead shot and clay pigeons. A fire destroyed most of the facility in November 1900. The plant was rebuilt, and was renamed the Hoyt Metal Company in 1901, at which time a lead smelter was added to the site. Before 1903, lead shot, sealing wax, mixed metals, and rolled sheet metal were manufactured there. Dross refining also took place at the site. Dross is the name for waste products or impurities on the surface of molten metal. The smelter was purchased by United Lead in 1903. After 1903, secondary smelting capabilities were added to activities already at the site. In 1928, N.L. Industries (formerly National Lead Company) acquired the smelter from United Lead. In the 1950s, battery recycling began at the site, and in 1979, the site was purchased by Taracorp Industries. The facility then produced lead products by recycling lead-bearing scrap materials. The lead products produced at Taracorp Industries included sheet lead, solder, shotgun pellets, lead wool, and secondary lead ingots.

At present, no secondary smelting activities are going on at the site, although the metal refining and fabricating facilities are still in operation.

Taracorp is bounded to the southwest by St. Louis Lead Recyclers. This company was originally formed to perform battery reclamation activities. In addition to those activities, St. Louis Lead began to recycle materials from the slag pile at Taracorp. Eleven thousand tons of slag were processed at St. Louis Lead in a two year period. Slag recycling wastes were deposited on their property.

A slag storage area is located on the southern boundary of the site and contains slag, metallic lead, and various lead compounds, oxides, cadmium, arsenic, iron oxide, silica, rubber and plastic battery cases, general refuse, drums, and

matte. According to the draft public health assessment, a 1983 preliminary site assessment estimated the quantity of lead waste to be 250,000 tons.

Contaminants detected on the site include copper, lead, mercury, zinc, arsenic, cadmium, manganese, chromium, nickel, selenium, and antimony. Contamination has been detected in the on-site waste pile, in drummed material on the site, in on-site surface soil and subsurface soil, and in on-site wells. Lead was detected in the on-site waste pile (15000-37300 mg/kg), in upper strata analyses of the largest waste pile (45000-279000 mg/kg), in SLLR waste pile analysis of surface materials (105000-286000 mg/kg), in drummed material analyses (237000-239500 mg/kg), in surface soil (14800-300000 mg/kg), in subsurface soil (1' to 20'-9-2700 mg/kg, >20' - 7-67 mg/kg), and in on-site monitoring wells (0-0.06 mg/l).

Off-site contaminants include lead, arsenic, antimony, cadmium, chromium, nickel, and zinc. Contaminants were detected off the site in the surface soils, in off-site wells, air samples, and in vegetable analyses. Lead was detected in the surface soil (2-9493 mg/kg), in off-site wells (0-0.28 mg/l), in air (0.41-3.2 ug/m^3), and in the analysis of some vegetables.

Taracorp continues lead processing at the site, but on-site activities were greatly reduced in 1983 in an effort to reduce air emissions of lead and due to the decreased price for lead.

RECENT SITE VISIT

ATSDR representatives did not conduct a site visit at Taracorp because of the Illinois Department of Public Health's ongoing activities at the site. The Illinois Department of Public Health (IDPH) conducted a site visit in December 1991. According to the draft public health assessment, the representatives observed a very large slag pile located on the site. The pile is nearly 40 feet above grade in some areas and encompasses an area of about five acres on the southern end of the property. The pile is estimated to weigh over 250,000 tons and is not covered. Taracorp representatives did inform IDPH that the pile was chemically treated to reduce wind erosion.

There are numerous buildings on the site, some abandoned, as well as railroad tracks, pavement, and bare soil. A number of pieces of heavy equipment were also observed on adjacent properties. Thousands of broken battery cases, large pieces of metal slag, barrels, and construction debris were visible

on the surface of the pile. The facility is fenced; however, the fence is damaged on the southeastern edge of the site due to trucks parking in that area. The site has been accessible in the past through an open gate at the SLLR (Trust 454) property. Due to continued industrial operations at the site, trespassing is unlikely. The facility appears unguarded during evenings, weekends, and holidays, but there are no reports or evidence of trespassing. There is some vegetation on the pile, but there is evidence of vegetative stress along the edge of the pile.

The neighborhood is a mixed residential, commercial, and industrial area with the closest residences located a few hundred feet to the east.

PUBLIC HEALTH ISSUES

According to the draft public health assessment, EPA had conducted a series of public meetings in early 1990 which culminated in a public hearing to discuss the proposed remedial action for the Taracorp site and to take public comments. The community expressed concern with the preferred alternative which included the excavation of residential soils with lead levels exceeding 500 parts per million, placing the soil on the existing slag pile, and then capping the pile. The residents would prefer the slag pile to be completely removed instead of increasing its size with additional materials.

The community had numerous questions concerning the effect of lead on health and on the sensitivity of children to those effects. They expressed an interest in the origin of lead and possible ways lead exposure could occur. In addition, the community wanted to know whether lead exposure was related to cancer, and inquired whether garden vegetables were safe to eat. Other concerns included whether blood lead test results would be made available to them, why was 500 mg/kg the designated clean-up level, and whether the remedial action was necessary.

Additional concerns dealt with the effect of the remedial action on the property values in the community.

CURRENT DOCUMENTS

Documents available for review include the preliminary health assessment dated January 18, 1989, the draft feasibility study dated August 1988, the draft remedial investigation dated January 1988, and the site assessment report dated 1988. Other documents can be obtained from the Illinois Department of Public Health. In addition, the

public health assessment for this site is being prepared as an Initial Release.

CONCLUSIONS/RECOMMENDATIONS FOR LEAD AND OTHER CONTAMINANTS

A final Record of Decision (ROD) was signed in March 1990. The site is in the remedial design phase, and construction is planned to begin in spring 1993.

At least three studies have been conducted in relation to the Taracorp lead site. Two of those studies were conducted by IDPH. The first study was conducted in late 1982, and consisted of blood sampling of residents of Granite City and Madison. The second study was conducted for residents of Venice in late 1983. The purpose of the two studies was to investigate the effects, if any, of high lead concentrations measured in air during smelter operations. IDPH, in conjunction with ATSDR, began the third study in 1991. That epidemiological lead study is concerned with the effects of lead exposure in communities surrounding the site.

ATSDR Lead Initiative personnel have no recommendations at this time. In addition to the on-going epidemiological study, the health assessment for this site will be presented to ATSDR's HARP, probably early in 1993. That health assessment will address community health concerns and will make conclusive recommendations in regard to the Taracorp site.

HARP Determinations

The data and information developed in the above document has been evaluated by the Health Activities Recommendation Panel (HARP) for appropriate public health actions. HARP has determined that the following actions are indicated. Community health education is needed to inform residents of the results of the ongoing exposure study. Because a public health assessment is currently being prepared for this site, HARP deferred decision on other public health actions until the public health assessment is available for evaluation. If information becomes available in the future which indicates that human exposure to lead or other contaminants is occurring at levels of public health concern, ATSDR will reevaluate this site for any additional indicated followup.

Public Health Action Plan

To respond to any community concerns, and based on the HARP recommendations, ATSDR has developed the following Public Health Action Plan.

1) The Illinois Department of Public Health is currently preparing a public health assessment on this site.

2) The Illinois Department of Public Health, in conjunction with ATSDR is currently conducting an epidemiological lead study in relation to the Taracorp site.

Lead Initiative personnel will monitor the effectiveness of the HARP determinations through continued involvement with site activities. Contact will be made on a quarterly basis with ATSDR regional personnel, DHAC staff, and cooperative agreement state personnel until the recommended public health actions have been implemented. Lead Initiative personnel will also monitor the recent activities at this site.

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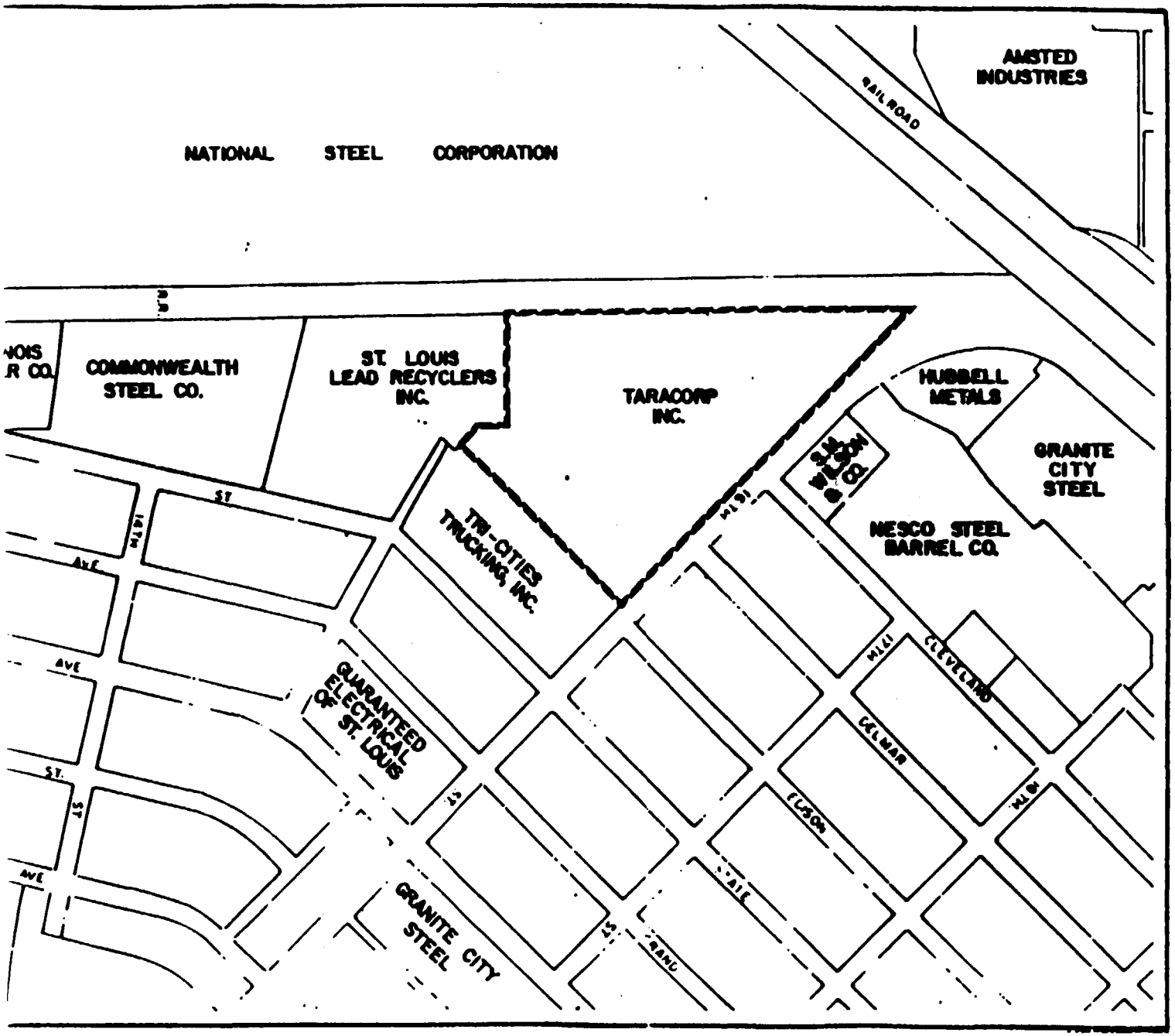

ADJACENT PROPERTIES MAP

Source: O'Brien and Gere, 1988